

EvansMDS AI/MDS 2023 Strategic Funding Initiative

Request for *Letters of Intent*

Up to \$200,000 per year for up to three
years

Letter of Intent Submission Deadline:
January 31, 2023

EvansMDS AI/MDS 2023 Strategic Funding Initiative

Founded in 1984, The Edward P. Evans Foundation is a non-profit charitable trust dedicated to funding research on Myelodysplastic Syndromes (MDS) through its EvansMDS initiative. We are seeking to fund the discovery of new knowledge that will lead to the development of better MDS therapies and ultimately, disease cures.

EvansMDS is conducting this competitive grant program to fund machine learning and data-driven research into the etiology, pathogenesis, and treatment of MDS that is collaborative, transformative, and of high impact. Recent advances in artificial intelligence and machine learning methods, and their applications to oncology have demonstrated their capacity to transform disease stratification, advance early diagnostics and facilitate design of new therapeutics. This initiative aims to bring these advances to MDS.

While this funding may support efforts for collecting novel data sources for studying these questions, we expect most of the funded projects to focus on machine learning models that deepen understanding of MDS and improve patient outcomes. Priority will be given to projects that directly examine key features of MDS rather than general concepts in leukemia, hematopoiesis, aging or immunology.

EvansMDS will offer several individual AI/MDS grants of up to \$200,000 per year for up to three years each to fund highly innovative and novel research. The following topics are of specific interest to EvansMDS:

(Please note that these are only suggestions - we are most interested in whatever your most exciting ideas might be.)

1. *In silico* identification of novel therapeutic targets based on gene-disease association data, single-cell RNA-seq, and other modalities.
2. Machine learning based molecular modeling for development of new MDS therapies.
3. Data-driven identification of germline mutations predisposing patients to MDS, age associated clonal hematopoiesis or genetic mosaicism.
4. Machine learning based modeling of the progression of clonal hematopoiesis to MDS and strategies to intervene, or prevent the pathogenesis of progression.
5. Machine learning algorithms for design of novel cell-based therapies, and improved matching for bone marrow transplants.
6. Machine learning analysis of patient imaging data (peripheral blood or bone marrow) to predict risk of progression or likelihood of treatment response.
7. Novel imaging modalities and algorithms for disease stratification, understanding pathogenesis and assessing perturbation impact.
8. Creating novel data sources for studying the above research topics.

We would like to note that multiple public data sources are already available for addressing some aspects of the topics posed listed above: UK Biobank, NIH All of Us, NHLBI TOPMed, NHGRI Centers for Common Disease Genomics NCI Genomic Data Commons.

Application process:

Applicants for *Discovery Research Grants* should submit a letter of intent (LOI) that will determine eligibility for full application. EvansMDS will issue a request for a full application to those investigators submitting LOIs found to be of interest.

The LOI shall consist of the following items, which will be shared with a panel of AI/ML and MDS experts (the Reviewing Committee). The Reviewing Committee has the option of rejecting any LOIs which do not follow the requested format:

1. **LOI Form** (provided with this document).
2. **Cover Letter** (limited to one page or less) – The cover letter must include a description of the specific aims that will be addressed by the project and how achieving these will advance the prevention or treatment of MDS.
3. **Project Description** (limited to one page or less) – The Project Description should describe the experimental strategy that will be used to achieve the specific aims described in the cover letter.
4. **Cited References** (optional, limited to one page or less, may be included on the Project Description page).
5. **NIH-style Bio sketch or equivalent** for the principal investigator.

Applicants must be established independent investigators in a tenure-track or tenured position at the Assistant Professor level (or equivalent), or higher, at a recognized 501(c)(3) university or non-profit institution in the United States. The Foundation values diversity and inclusiveness in its grant programs and encourages submissions from groups underrepresented in science.

Applicants are limited to the submission of one Letter of Intent. Investigators previously funded by the Edward P. Evans Foundation are welcome to apply. Investigators who are currently funded are also welcome to apply as long as there is no overlap with any existing funded grants.

IMPORTANT: Letters of intent are due by **January 31, 2023** and will be reviewed by the Reviewing Committee and the Foundation. All documents must be submitted in electronic form, as a single pdf file, by email, to grants@epefoundation.org. The subject line of this email should read AI/ML 2023 LOI from <your name> (e.g., “AI/ML 2023 LOI from <Insert your name here>”). Emails that do not have this form with the specified subject header may be rejected or end up in our spam folder.

Applicants selected to submit a full proposal will be notified in early March 2023. The deadline for submission of the full proposals will be in early April 2023. It is intended that funding will be initiated and the research begun by **September 1, 2023**.

EvansMDS asks that all of our awardees annually share their research results in-person at our MDS Summit, usually held in the late fall. Failure to participate in this meeting may result in loss of research funds.